

INDEX

RUBBER CHEMISTRY AND TECHNOLOGY VOLUME XXIII, 1950

AUTHOR INDEX

	Page		Page
ADDOBRATI, A. See GENOVA, J.		—, AND SCHOFIELD, J. R. Measurement of stress relaxation of unvulcanized rubber by means of the Mooney shearing-disc viscometer.....	601
ADAMS, R. J., BUCKLER, E. J., AND WANLESS, G. G. Low-temperature performance of Butyl inner tubes.....	670	—, AND WOOD, R. I. Mastication and compounding of natural rubber in an oxygen-free atmosphere.....	537
AMBORSKI, LEONARD E., AND GOLDFINGER, GEORGE. Mechanism of reinforcement. III. Viscosity of carbon black suspensions in GR-S solutions.....	803	BOONSTRA, B. B. S. T. Free retraction of elongated rubbers.....	587
—, BLACK, CARL E. III, AND GOLDFINGER, GEORGE. Mechanism of reinforcement. IV. Adsorption of GR-S by carbon black.....	417	Tensile properties of natural and synthetic rubbers at elevated and subnormal temperatures.....	338
ARKHAGEL'SKAYA, M. See DOGADKIN, B.		BORROFF, E. M., AND WAKE, W. D. Adhesion of rubber to textiles.....	482
ARLMAN, J. J. The degree of crystallinity in natural rubber. III. Correlation between x-ray and density measurements. See GOPPEL, J. M.	306	II. Factors influencing the load required to strip rubber from fabric and foil surfaces.....	492
—, AND GOPPEL, J. M. The degree of crystallinity in natural rubber. V. A discussion of the x-ray results on natural rubber in connection with the work of Flory, Gee, and Wildshut.....	319	III. Examination of test technique.....	500
		IV. Formation of staple fiber in rubber-to-fabric adhesion.....	
BACCAREDDA, MARIO. See NATTA, GIULIO.		BUCKLER, E. J. See ADAMS, R. J.	
BARNETT, C. E., AND JONES, H. C. Role of adsorption in reinforcement of GR-S.....	229	BUIST, J. M. Tear initiation and tear propagation.....	137
BARTENEV, G. See DOGADKIN, B.		—, AND NAUNTON, W. J. S. Rubber bonding.....	945
BAUMINGER, B. B., AND POULTON, F. C. J. Combustion method for the estimation of carbon black in compounded rubber.....	706	CHAMBERS, W. T. Direct determination of oxygen in rubbers. Application of the Unterzaucher method.....	727
BARTON, BERNARD C. Use of oxidizing agents in rubber vulcanization. Zinc oxide-free process.....	888	CHANAY, A. L. See BECKWITH, R. K.	
BAYER, O., MÜLLER, E., PETERSEN, S., PEPERBRINK, H. F., AND WINDEMUTH, E. Polyurethanes. VI. New types of highly elastic substances. Vulcanizates.....	812	CHEYNEY, LA VERNE E. Plasticizers for polar synthetic rubbers.....	217
BEATTY, J. R., AND DAVIES, J. M. Time and stress effects in the behavior of rubber at low temperature.....	54	COLE, J. O. See GLAZER, E. J.	
—, AND JUVE, A. E. Stress relaxation of some rubber and synthetic-rubber vulcanizates in compression.....	786	CONANT, F. S., HALL, G. L., AND THURMAN, G. R. Relationship between Gough-Joule coefficients and moduli of vulcanized rubbers.....	44
BEAVER, E. W. J., CROFT-WHITE, P. G., GARNER, P. J., AND ROONEY, G. Tackmeter for rubber testing.....	719	CRAWFORD, R. A., AND TIGER, G. J. Improved-processing GR-S by variations in compounding.....	242
BECKWITH, R. K., WELCH, L. M., NELSON, J. F., CHANAY, A. L., AND MCCracken, E. A. Tack of Butyl and natural rubbers. BLACK, CARL E. III. See AMBORSKI, LEONARD E.	933	CROFT-WHITE, P. G. See BEAVER, E. W. J.	
BLACK, CARL E. III. See AMBORSKI, LEONARD E.		COLE, J. O. See GLAZER, E. J.	
BLACK, S. A. See MOONEY, M.		DANNENBERG, E. M., AND STOKES, C. A. Characteristics of reinforcing furnace blacks. Processing shrinkage.....	252
BLAKE, JOHN T., AND KITCHIN, DONALD W. Effect of soil microorganisms on rubber insulation.....	117	DAVIES, J. M. See BEATTY, J. R.	
BLANCHARD, A. F., AND PARKINSON, D. Structures in rubber reinforced by carbon black.....	615	DAWSON, H. G. Mechanical stability test for Hevea latex.....	981
BLOOMFIELD, GEORGE F. Reaction of sulfur and sulfur compounds with olefinic substances. VI. Factors influencing cyclic sulfide formation in the reaction of sulfur with polyisoprenes.....	326	D'IANNI, J. D. See GLAZER, E. J.	
BLOW, C. M. Estimation of small percentages in rubber in fibrous materials.....	300	DOBROMSLOVA, A. See DOGADKIN, B.	
		DOGADKIN, B., BARTENEV, G., AND NOVIKOVA, N. Investigations in the field of rubber vulcanization. VI. Change in two-dimensional extension modulus during vulcanization of natural and butadiene-styrene rubbers.....	553
		—, AND KARMIN, B. Investigations in the field of rubber vulcanization. IV. Phenomenon of vulcanization optimum in mixtures with a large proportion of constructive agent.....	1
		—, KARMIN, DOBROMSLOVA, AND SAPOZHKOVA, L. Investigations in the field of	

- | | Page | | Page |
|---|------|---|------|
| rubber vulcanization. VII. Influence of organic accelerators on the kinetics of vulcanization and properties of natural-rubber vulcanizates. | 563 | HOMANS, L. N. S., AND GILS, G. E. VAN. Fresh Hevea latex. A complex colloidal system. | 644 |
| —, SOBOLEVA, I., AND ARKHANGEL'SKAYA, M. Determination of the molecular weight of rubber and polystyrene by the methods of light scattering and osmometry. | 89 | HOUWINK, R. Interaction between polymers and fillers. | 414 |
| FLETCHER, W. P. Some problems involved in the grading and testing of natural rubber. A progress report. | 107 | HUMPHREYS, N. C. H., AND WAKE, W. C. Structure of vulcanized latex. | 847 |
| FLINT, C. F. Control of undesirable viscosity increases in latex compounds. | 691 | IVEY, DONALD G., MROWCA, B. A., AND GUTH, EUGENE. Propagation of ultrasonic bulk waves in high polymers. | 172 |
| FLORY, PAUL J. See FOX, THOMAS G. JR. | | JONES, H. C. See BARNETT, C. E. | |
| —, RABJOHN, NORMAN, AND SHAFFER, MARCIA C. Dependence of elastic properties of vulcanized rubber on the degree of cross-linking. | 9 | JUVE, R. D., AND MARSH, J. W. Low-temperature behavior of butadiene-styrene copolymers. Effect of compounding variables. | 760 |
| —, Dependence of tensile strength of vulcanized rubber on the degree of cross-linking. | 27 | JUVE, R. D. See BEATTY, J. R. | |
| FORMAN, D. B., RADCLIFF, R. R., AND MAYO, L. R. Vulcanization of Neoprene Type W. | 874 | KARMIN, B. See DOGADKIN, B. | |
| FOX, THOMAS G. JR., FLORY, PAUL J., AND MARSHALL, ROBERT E. Thermodynamics of crystallization in high polymers. VI. Incipient crystallization in stretched vulcanized rubber. | 576 | KITCHIN, DONALD W. See BLAKE, JOHN T. | |
| GALL, W. MURRAY. Compounding of hard rubber (natural and synthetic). | 266 | KONINGSBERGER, C. See SALOMON, G. | |
| GARDNER, E. R., AND WILLIAMS, P. L. Latex-reclaim-casein mixtures for rubber-cord fabric adhesion. | 698 | LAWRENCE, J. W., AND SHELTON, J. REID. Oxidation of compounds structurally related to GR-S. | 836 |
| GARNER, P. J. See BEAVEN, E. W. J. | | LE BRAS, J., AND SALVETTI, A. Kinetic study of the oxidation of rubber. I. Some observations in the case of raw rubber. | 374 |
| GEHMAN, S. D., JONES, P. J., WILKINSON, C. S. JR., AND WOODFORD, D. E. Low-temperature stiffening of elastomers. | 770 | —, Have mechanical stresses any effect on the oxidizability of rubber? | 535 |
| GENOVA, J., AND ADDOBATTI, A. Determination of copper in raw materials used in the rubber industry. | 972 | MAYO, L. R. See FORMAN, D. B. | |
| GILS, G. E. VAN. See HOMANS, L. N. S. | | MCCRACKEN, E. A. See BECKWITH, R. K. | |
| GLAZER, E. J., PARKS, C. R., COLE, J. O., AND D'IANI, J. D. Stability of crude GR-S. Effect of traces of antioxidant. | 905 | MC ELWAIN, ROBERT E. See POLLACK, LOUIS R. | |
| GOLDINGER, GEORGE. See AMBORSKI, LEONARD E. | | MAFFEI, FRANCISCO J., AND OUTA, M. Reaction of bromine with rubber in aqueous suspension, and its analytical use. | 457 |
| GOPPEL, J. M. See ARLMAN, J. J. | | MARSHALL, ROBERT E. See FOX, THOMAS G. JR. | |
| —, AND ARLMAN, J. J. The degree of crystallinity of natural rubber. IV. The degree of crystallization in frozen raw rubber and stretched vulcanized rubber. | 310 | MARTIN, G. Preparation and properties of highly purified rubber. | 440 |
| GOSSET, JACQUES. Bonding of rubber to metals by means of new chemical derivatives of rubber. | 281 | MERROBIAN, ROBERT D., AND TOBOLSKY, ARTHUR V. Effect of chemical agents on heat deterioration of GR-S. | 205 |
| GUTH, EUGENE. See IVEY, DONALD G.; WITTE, R. S. | | MEYER, A. W. See HART, E. J. | |
| —, Theory of filler reinforcement. II. | 635 | MOAKES, R. C. W. See HAMMOND, G. L. | |
| DE HAAN-HOMANS, (MRS.) L. N. S. Oxidation processes in latex of Hevea brasiliensis. | 858 | MOCHEL, W. E. See WALKER, H. W. | |
| HAEHL, ADRIEN. Use of zinc dibutyldithiocarbamate in the manufacture of cellular rubber. | 897 | MOONEY, M., AND BLACK, S. A. Elongation hysteresis of Hevea and synthetic elastomers. | 744 |
| HALL, G. L. See CONANT, F. S. | | MROWCA, B. A. See IVEY, DONALD G.; WITTE, R. S. | |
| HAMMOND, G. L., AND MOAKES, R. C. W. Adhesion of rubber and textiles. I. Preliminary evaluation of synthetic rubbers in rubber-to-fabric adhesion. | 467 | MULLER, E. See BAYER, O. | |
| HARPER, D. A., SMITH, W. F., AND WHITE, H. G. Some new compositions based on condensation rubbers. | 608 | MULLINS, L. Permanent set in vulcanized rubber. | 536 |
| HART, E. J., AND MEYER, A. W. Infrared studies of 1,2- and <i>trans</i> -1,4-structure of polybutadiene and butadiene-styrene copolymers polymerized at various temperatures. | 98 | —, Thixotropic behavior of carbon black in rubber. | 733 |
| HAWORTH, JAMES, AND PRYER, W. R. Staining problems associated with rubber chemicals. | 512 | NAUNTON, W. J. S. See BUIST, J. M. | |
| HOEKSTRA, J. See VAN ROSSEM, A. | | NATTA, GIULIO, AND BACCAREDDA, MARIO. Velocity of propagation of ultrasonic waves and the form of the molecules of high polymers. | 151 |
| —, AND VAN ROSSEM, A. Mastication of rubber, II. | 196 | NELSON, J. F. See BECKWITH, R. K. | |
| | | NIJVELD, H. A. W. Tear resistance of vulcanized rubber. | 362 |
| | | NELSON, J. F. See BECKWITH, R. K. | |
| | | NOVIKOVA, N. See DOGADKIN, B. | |
| | | OUTA, M. See MAFFEI, FRANCISCO J. | |
| | | PARK, CHULCHAI, AND YOSHIDA, USABURO. Tensile strength of rubber and the rubber molecule. | 581 |
| | | PARKINSON, D. See BLANCHARD, A. F. | |
| | | PARKS, C. R. See GLAZER, E. J. | |
| | | PETERSEN, S. See BAYER, O. | |
| | | PIEPENBRINK, H. F. See BAYER, O. | |
| | | PITTMAN, G. A., AND THORNLEY, E. R. Dynamic compression test for adhesion of rubber-to-cord fabric. | 921 |

SUBJECT INDEX

997

	Page		Page
POLLACK, LOUIS R., McELWAIN, ROBERT E., AND WAGNER, PAUL T. Oxygen absorption of vulcanizates. A means of evaluating aging resistance.....	425	STOKES, C. A. See DANNENBERG, E. M.	
POULTON, F. C. J. See BAUMINGER, B. B.		STOREY, E. G. Evaluation of flex life and heat build-up properties of elastomers....	910
—, AND TARRANT, L. Polarographic determination of zinc in compounded rubber.....	975	TARRANT, L. See POULTON, F. C. JR.	
PRYER, W. R. See HAWORTH, JAMES.		THORNLEY, E. R. See PITTMANN, G. A.	
RABJOHN, NORMAN. See FLORY, PAUL J.		THURMAN, G. R. See CONANT, F. S.	
RADCLIFF, R. R. See FORMAN, D. B.		TILTON, L. W. See WOOD, L. A.	
REID, SHELTON J. See LAWRENCE, J. W.		TOBOLSKY, ARTHUR V. See MESROBIAN, ROBERT B.	
ROSSLER, FRITZ. Flow phenomena in rubber samples.....	67	TRELOAR, L. R. G. Flow phenomena in rubber. II. Flow curves for GR-S rubber....	347
ROONEY, G. See BEAVEN, E. W. J.		ULTÉE, A. J. See SALOMON, G.	
ROSSEM, A. VAN. Light phenomena on elongating vulcanized rubber.....	332	VAN GILS, G. E. See GILS, G. E. VAN.	
See HOEKSTRA, J.		VAN ROSSEM, A. See ROSSEM, A. VAN.	
—, AND HOEKSTRA, J. Mastication of rubber. I.....	185	VAN VEERSEN, G. J. See VEERSEN, G. J. VAN.	
SALOMON, G., KONINGSBERGER, C., AND ULTÉE, A. J. Kinetic analysis of rubber halides.....	447	VEERSEN, G. J. VAN. Hydrochlorination of rubber in latex.....	461
SALVETTI, A. See LE BRAS, J.		VILLAIN, HENRI. Action of copper and its derivatives on the aging of rubber.....	352
SAPOZHKOVA, L. See DOGADKIN, B.		WAGNER, PAUL T. See POLLACK, LOUIS R.	
SCHAEFFER, W. Color reactions of some accelerators in current use.....	292	WAKE, W. C. See BORROFF, E. M.; HUMPHREYS, N. C.	
SCHAEFFER, W. D. See SMITH, W. R.		WALKER, H. W., AND MOCHEL, W. E. Alteration of Neoprene by polymerization temperature.....	652
SCHIDROWITZ, PHILIP. Giuseppe Bruni.....	303	WANLESS, G. G. See ADAMS, R. J.	
SCHOFIELD, J. R. See BLOW, C. M.		WELCH, L. M. See BECKWITH, R. K.	
SCOTT, J. R. Aging of GR-S vulcanizates. III. Some effects of oxygen and temperature on aging.....	390	WHITE, H. G. See HARPER, D. A.	
IV. Influence of the vulcanizing ingredients, antioxidant, and softener.....	397	WHORLOW, R. W. See SCOTT, J. R.	
—, AND WHORLOW, R. W. Interpretation of plasticity measurements.....	6	WILKINSON, C. S. See GEHMAN, S. D.	
SHAFFER, MARCIA C. See FLORY, PAUL J.		WILLIAMS, P. L. See GARDNER, E. R.	
SHELTON, J. REID. See LAWRENCE, J. W.		WINDEMUTH, E. See BAYER, O.	
SMITH, W. F. See HARPER, D. A.		WITTE, R. S., MROWCA, B. A., AND GUTH, E. Propagation of audiofrequency sound in high polymers.....	163
SMITH, W. R., AND SCHAEFFER, W. D. Nature and activity of carbon black surfaces.....	625	WOOD, L. A., AND TILTON, L. W. Refractive index of natural rubber for different wave lengths.....	661
SOBOLEVA, I. See DOGADKIN, B.		WOOD, R. L. See BLOW, C. M.	
STAFFORD, R. L. Observations on the oxidation of rubber in light.....	404	WOODFORD, D. E. See GEHMAN, S. D.	
		YOSHIDA, USABURO. See PARK, CHULLCHAI.	

SUBJECT INDEX

Absorption, oxygen, of vulcanizates.....	425	Antioxidant	
Accelerators		effect of traces, in crude GR-S.....	905
color reactions of.....	292	influence of, on aging of GR-S vulcanizates.....	397
organic, effect of, on kinetics of vulcanization.....	533	Aqueous dispersion, reaction of bromine with rubber in.....	457
Action of copper and its derivatives on the aging of rubber.....	352	Audiofrequency, sound, propagation of, in high polymers.....	163
Adhesion		Bonding	
of rubber to textiles		rubber.....	945
I. Preliminary evaluation of synthetic rubbers in rubber-to-fabric adhesion.....	467	of rubber to metal by means of new chemical derivatives of rubber.....	281
II. Factors influencing the load required to strip rubber from fabric and foil surfaces.....	482	Bromine, reaction with rubber in aqueous dispersion.....	457
III. Examination of test technique.....	490	Bruni, Giuseppe. Obituary by Philip Schidrowitz.....	303
IV. Formation of staple fiber in rubber to fabric adhesion.....	500	Butadiene-styrene copolymers.....	98
of rubber to cord fabric.....	921	Butyl	
rubber-cord fabric.....	698	inner tubes, low-temperature performance of.....	670
Adsorption		tack of, and natural rubbers.....	933
of GR-S by carbon black.....	417	Carbon black	
in reinforcement of GR-S.....	229	adsorption of GR-S by.....	417
Aging		in compounded rubber, combustion method for estimation of.....	706
of GR-S vulcanizates.....	390	structures in rubber reinforced by.....	615
III. Some effects of oxygen and temperature on aging.....	397	surfaces, nature and activity of.....	625
IV. Influence of the vulcanizing ingredients, antioxidant, and softener.....	425	thixotropic behavior, of, in rubber.....	733
resistance, evaluating.....	352	Casein, latex-reclaim-, mixtures for rubber-cord fabric adhesion.....	698
Alteration of Neoprene by polymerization temperature.....	652		

	Page		Page
Cellular rubber, zinc dibutyldithiocarbamate in manufacture of.....	897	Evaluation of flex life and heat build-up properties of elastomers.....	910
Characteristics of reinforcing furnace blacks. Processing shrinkage.....	252	Extension, 2-dimensional, caused by vulcanization of natural and butadiene-styrene rubbers.....	553
Chemical derivatives, new, of rubber for bonding rubber to metals.....	281	Fabric	
Chemicals, rubber, staining problems associated with.....	512	adhesion,	
Color reactions of some accelerators in current use.....	292	rubber.....	500
Combustion method for the estimation of carbon black in compounded rubber.....	706	rubber-cord.....	698
Compounding		synthetic rubbers in rubber to.....	467, 921
of GR-S, variations in.....	242	and foil surfaces, load required to strip rubber from.....	482
of hard rubber (natural and synthetic).....	266	Fiber in rubber to fabric adhesion.....	500
of natural rubber in oxygen-free atmosphere.....	537	Fibrous materials, estimation of small percentages of rubber in.....	300
Compression		Filler, reinforcement, theory of.....	635
stress relaxation in.....	786	Fillers, interaction between polymers and fillers.....	414
test, dynamic for adhesion rubber-to-cord fabric.....	921	Flex life, evaluation of, and heat build-up properties of elastomers.....	910
Condensation rubbers, new compositions based on.....	608	Flow phenomena	
Control of undesirable viscosity increases in latex compounds.....	691	in rubber. II. Flow curves for GR-S	
Copper		rubber samples.....	347
and derivatives, action of, on aging of rubber.....	352	in rubber retraction of elongated rubbers.....	67
in raw materials, determination of.....	972	Free retraction of elongated rubbers.....	587
Cord fabric		Fresh Hevea latex. A complex colloidal system.....	644
adhesion, rubber.....	698	Frozen raw rubber, crystallization in.....	310
adhesion of rubber to.....	921	Furnace blacks, reinforcing.....	252
Cross-linking, degree of, dependence of tensile strength of vulcanized rubber on.....	9, 27	Gough-Joule coefficients.....	44
Crystallinity, degree of, in natural rubber.....	306, 310, 319	Grading and testing of natural rubber.....	107
Crystallization		GR-S	
in frozen raw rubber and stretched vulcanized rubber.....	310	adsorption	
in high polymers, thermodynamics of.....	576	of, by carbon black.....	417
Cyclic sulfide formation.....	326	in reinforcement of.....	229
Degree of crystallinity in natural rubber.		crude, stability of.....	905
III. Correlation between x-ray and density measurements.....	306	flow curves for.....	347
IV. Degree of crystallization in frozen raw rubber and stretched vulcanized rubber..	310	heat deterioration of.....	205
V. A discussion of the x-ray results on natural rubber in connection with the work of Flory, Gee, and Wildschut.....	310	improved-processing.....	242
Density measurements.....	306	oxidation of compounds structurally related to.....	836
Dependence		solutions, carbon black suspensions in.....	803
of elastic properties of vulcanized rubber on the degree of cross-linking.....	9	vulcanizates, aging of.....	390, 397
of tensile strength of vulcanized rubber on degree of cross-linking.....	27	Halides, rubber, kinetic analysis of.....	447
Deterioration, heat, of GR-S.....	205	Hard rubber, compounding of.....	226
Determination		Have mechanical stresses any effect on the oxidizability of rubber?.....	535
of copper in raw materials used in the rubber industry.....	972	Heat deterioration of GR-S.....	205
direct, of oxygen in rubbers. Application of the Unterzaucher method.....	727	Hydrochlorination of rubber in latex.....	461
of the molecular weight of rubber and polystyrene by the methods of light scattering and osmometry.....	89	Hysteresis, elongation, of Hevea and synthetic elastomers.....	744
Direct determination of oxygen in rubbers. Application of the Unterzaucher method.....	727	Improved-processing GR-S by variations in compounding.....	242
Dynamic compression test for adhesion of rubber to cord fabric.....	921	Infrared studies of 1,2- and <i>trans</i> -1,4-structure of polybutadiene and butadiene-styrene copolymers polymerized at various temperatures.....	98
Effect		Inner tubes, Butyl.....	670
of chemical agents on heat deterioration of GR-S.....	205	Insulation effect of soil microorganisms on rubber.....	117
of soil microorganisms of rubber insulation.....	117	Interaction between polymers and fillers.....	414
Elastic properties of vulcanized rubber.....	9	Interpretation of plasticity measurements.....	683
Elevated and subnormal temperatures of natural and synthetic rubbers.....	338	Investigations in the field of rubber vulcanization.....	
Elongated rubbers, free retraction of.....	587	IV. Phenomenon of vulcanization optimum in mixtures with a large proportion of constructive agent.....	1
elongating vulcanized rubbers, light phenomena on.....	332	VI. Change in two-dimensional extension modulus during vulcanization of natural and butadiene-styrene rubbers.....	553
Elongation hysteresis of Hevea and synthetic elastomers.....	744	VII. Influence of organic accelerators on the kinetics of vulcanization and properties of natural-rubber vulcanizates.....	563
Estimation of small percentages of rubber in fibrous materials.....	300	Kinetic	
		analysis of rubber halides.....	447
		study of the oxidation of rubber. I. Some observations in the case of raw rubber.....	374
		Kinetics of vulcanization.....	563

	Page		Page
Latex		Permanent set in vulcanized rubber.....	536
compounds, undesirable viscosity increases		Plasticity measurements.....	683
in.....	691	Plasticizers for polar synthetic rubbers.....	217
fresh Hevea.....	644	Polarographic determination of zinc in com-	
Hevea, oxidation process in.....	858	pounded rubber.....	975
hydrochlorination of rubber in.....	461	Polybutadiene. Infrared studies of structure	
mechanical stability test for.....	981	of.....	98
oxidation processes in.....	858	Polyisoprenes, cyclic sulfide formation in re-	
-reclaim-casein mixtures for rubber-cord		action of sulfur with.....	326
fabric adhesion.....	698	Polymerization temperature, alteration of	
vulcanized, structure of.....	847	Neoprene by.....	652
Light		Polystyrene, determination of molecular	
phenomena on elongating vulcanized rub-		weight of.....	89
bers.....	332	Preparation and properties of highly purified	
scattering, determination of molecular		rubber.....	440
weight of rubber and styrene by method		Processing shrinkage of furnace blacks.....	252
of.....	89	Propagation	
Load required to strip rubber from fabric		of audiofrequency sound in high polymers...	163
and foil surfaces.....	482	of ultrasonic bulk waves in high polymers...	172
Low-temperature		Purified rubber, preparation and properties of	440
behavior of butadiene-styrene copolymers...	760		
performance of Butyl inner tubes.....	670		
stiffening of elastomers.....	770	Raw rubber, kinetic study of oxidation of...	374
Low temperatures, time and stress effects of		Reaction	
rubber at.....	54	of bromine with rubber in aqueous suspen-	
		sion, and its analytical use.....	457
Mastication		of sulfur and sulfur compounds with olefinic	
and compounding of natural rubber in an		substances. VI. Factors influencing	
oxygen-free atmosphere.....	537	cyclic sulfide formation in the reaction	
of rubber.....		of sulfur with polyisoprenes.....	326
I.....	185	Reactions, color, of accelerators.....	292
II.....	196	Reclaim-casein, latex-, mixtures for rubber-	
Measurement of stress relaxation of unvul-		cord fabric adhesion.....	698
canized rubber by means of the Mooney		Reinforcement,	
shearing-disc viscometer	601	filler.....	635
Mechanical		of GR-S.....	229
stability test for Hevea latex.....	981	mechanism of	
stresses and effect on oxidizability of rub-		III.....	803
ber.....	535	IV.....	417
Mechanism of reinforcement.		Reinforcing furnace blacks.....	252
III. Viscosity of carbon black suspensions		Refractive index of natural rubber for differ-	
in GR-S solutions.....	803	ent wave lengths.....	661
IV. Adsorption of GR-S by carbon black...	417	Relationship between Gough-Joule coeffi-	
Metals, bonding of rubber to.....	281	cients and moduli of vulcanized rubbers...	44
Moduli of vulcanized rubbers.....	44	Relaxation	
Modulus, 2-dimensional extension, during vul-		stress,	
canization of natural and butadienestyrene		measurement of.....	601
rubbers.....	553	of some rubber and synthetic rubber vul-	
Molecular weight of rubber, determination of.	89	canizates.....	786
Molecule, rubber, and tensile strength of.....	581	Resistance, tear, of vulcanized rubber.....	362
Mooney shearing-disc viscometer.....	601	Retraction, free, of elongated rubbers.....	587
		Role of adsorption in reinforcement of GR-S.	229
		Rubber bonding.....	945
Nature and activity of carbon black surfaces.	625		
Neoprene		Set, permanent, in vulcanized rubber.....	536
alteration of, by polymerization tempera-		Softener, influence of, on aging of GR-S vul-	
ture.....	652	canizates.....	397
Type W, vulcanization of.....	874	Soil microorganisms, effect of, on rubber in-	
New types of highly elastic substances. Vul-		sulation.....	117
collans.....	812	Some new compositions based on condensa-	
		tion rubbers.....	608
Observations on the oxidation of rubber in		Some problems involved in the grading and	
light.....	404	testing of natural rubber. A progress re-	
Olefinic substances, reaction of sulfur with.....	326	port.....	107
Optimum vulcanization of mixtures.....	1	Stability	
Osmometry determination of molecular weight		of crude GR-S. Effect of traces of anti-	
of rubber and polystyrene by method of.....	89	oxidant.....	905
Oxidation		test mechanical, for Hevea latex.....	981
of compounds structurally related to GR-S	836	Sound, audiofrequency, in high polymers...	163
processes in latex of Hevea brasiliensis.....	858	Staining problems associated with rubber	
of rubber.....		chemicals.....	512
kinetic study of.....	374	Stiffening, low-temperature, of elastomers...	770
in light.....	404	Stress	
Oxidizing agents in vulcanization.....	888	effects in rubber at low temperatures.....	54
Oxygen		relaxation of some rubber and synthetic-	
absorption of vulcanizates. A means of		rubber vulcanizates in compression.....	786
evaluating aging resistance.....	425	Stresses, mechanical, and effect on oxidizabil-	
-free atmosphere, mastication and comp-		ity of rubber.....	535
ounding of natural rubber in.....	537	Stretched	
in rubbers, direct determination of (Unter-		rubber, incipient crystallization in.....	576
zaucher method).....	727	vulcanized rubber.....	310
and temperature, effects of, on aging of		Structure of vulcanized latex.....	847
GR-S.....	390	Structures in rubber reinforced by carbon	
		black.....	615

	Page		Page
Subnormal and elevated temperature of natural and synthetic rubbers.....	338	Ultrasonic	
Sulfur and sulfur compounds, reaction with olefinic substances.....	326	bulk waves in high polymers.....	172
Tack of Butyl and natural rubbers.....	933	waves, velocity of propagation of.....	151
Tackmeter for rubber testing.....	719	Unterzaucher method, in direct determination of oxygen in rubbers.....	727
Tear		Use of oxidizing agents in rubber vulcanization. Zinc oxide-free process.....	888
initiation and tear propagation.....	137	Use of zinc dibutyldithiocarbamate in the manufacture of cellular rubber.....	897
resistance of vulcanized rubber.....	362	Velocity of propagation of ultrasonic waves and the form of the molecules of high polymers.....	151
Temperature, some effects of, on aging.....	390	Viscometer, Mooney shearing-disc.....	601
Tensile		Viscosity	
properties of natural and synthetic rubbers at elevated and subnormal temperatures	338	of carbon black suspensions.....	803
strength		increases, undesirable, control of.....	691
of rubber and the rubber molecule.....	581	Vulcanization of Neoprene Type W.....	874
of vulcanized rubber.....	27	Vulcanizing ingredients, influence of, on aging of GR-S vulcanizates.....	397
Test technique for adhesion rubber to textiles.	490	Vulcollans.....	812
Testing		x-Ray	
of natural rubber.....	107	and density measurements.....	306
tackmeter for rubber.....	719	results on natural rubber.....	319
Textiles, adhesion of rubber and 467, 482, 490,	500	Zinc	
Theory of filler reinforcement. II.....	635	dibutyldithiocarbamate in manufacture of cellular rubber.....	897
Thermodynamics of crystallization in high polymers. VI. Incipient crystallization in stretched vulcanized rubber.....	576	oxide-free process.....	888
Thixotropic behavior of carbon black in rubber.....	733	polarographic determination of, in compounded rubber.....	975
Time and stress effects in the behavior of rubber at low temperature.....	54		